

1. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{-2380}{0}} + \sqrt{63}$$

- A. Nonreal Complex
  - B. Not a Complex Number
  - C. Rational
  - D. Pure Imaginary
  - E. Irrational
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2. Simplify the expression below and choose the interval the simplification is contained within.

$$1 - 2 \div 9 * 20 - (5 * 15)$$

- A.  $[-75.01, -72.01]$
  - B.  $[-126.67, -123.67]$
  - C.  $[71.99, 82.99]$
  - D.  $[-83.44, -77.44]$
  - E. None of the above
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3. Simplify the expression below into the form  $a + bi$ . Then, choose the intervals that  $a$  and  $b$  belong to.

$$(5 - 2i)(8 + 10i)$$

- A.  $a \in [59, 63]$  and  $b \in [-40, -32]$
- B.  $a \in [59, 63]$  and  $b \in [31, 37]$
- C.  $a \in [15, 22]$  and  $b \in [65, 71]$
- D.  $a \in [39, 44]$  and  $b \in [-21, -19]$
- E.  $a \in [15, 22]$  and  $b \in [-70, -57]$

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4. Simplify the expression below and choose the interval the simplification is contained within.

$$6 - 18^2 + 17 \div 11 * 5 \div 10$$

- A.  $[-318.23, -317.26]$
- B.  $[329.64, 330.72]$
- C.  $[330.23, 331.02]$
- D.  $[-317.26, -317.09]$
- E. None of the above

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5. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{1560}{8}} + 7i^2$$

- A. Rational
- B. Nonreal Complex
- C. Pure Imaginary
- D. Not a Complex Number
- E. Irrational

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6. Simplify the expression below into the form  $a + bi$ . Then, choose the intervals that  $a$  and  $b$  belong to.

$$\frac{63 + 44i}{6 + 5i}$$

- A.  $a \in [1.9, 3.1]$  and  $b \in [9, 11]$
- B.  $a \in [9.6, 9.85]$  and  $b \in [-51.5, -50]$
- C.  $a \in [9.6, 9.85]$  and  $b \in [-2.5, 0]$

D.  $a \in [597.5, 598.55]$  and  $b \in [-2.5, 0]$

E.  $a \in [10.25, 10.9]$  and  $b \in [8, 9]$

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7. Simplify the expression below into the form  $a + bi$ . Then, choose the intervals that  $a$  and  $b$  belong to.

$$(-3 - 10i)(8 + 5i)$$

A.  $a \in [23, 31]$  and  $b \in [87, 103]$

B.  $a \in [23, 31]$  and  $b \in [-99, -90]$

C.  $a \in [-74, -70]$  and  $b \in [-69, -60]$

D.  $a \in [-26, -16]$  and  $b \in [-50, -48]$

E.  $a \in [-74, -70]$  and  $b \in [64, 66]$

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8. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{8100}{25}}$$

A. Rational

B. Irrational

C. Not a Real number

D. Whole

E. Integer

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9. Simplify the expression below into the form  $a + bi$ . Then, choose the intervals that  $a$  and  $b$  belong to.

$$\frac{27 + 44i}{-2 - i}$$

A.  $a \in [-15, -13]$  and  $b \in [-44.5, -43.5]$

- B.  $a \in [-20.5, -17.5]$  and  $b \in [-13, -11.5]$
  - C.  $a \in [-99, -97.5]$  and  $b \in [-13, -11.5]$
  - D.  $a \in [-20.5, -17.5]$  and  $b \in [-62.5, -60]$
  - E.  $a \in [-2.5, -1.5]$  and  $b \in [-23.5, -22]$
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10. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{40000}{100}}$$

- A. Rational
  - B. Irrational
  - C. Integer
  - D. Not a Real number
  - E. Whole
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